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ABSTRACT

An activity was undertaken to develop written criterion-referenced tests for the common core component of Applied Principles of Agribusiness and Natural Resources Occupations. Intended for tenth grade students who have completed Fundamentals of Agribusiness and Natural Resources Occupations, applied principles were designed to consist of three components, with each component comprising one-third of the school year. The common core component was designed to be taught together with two specialized components. Criterion-referenced tests were developed for each of the three instructional areas in the common core component from a list of competencies that was compiled. Project results were a list of specific competencies for the common core component of Applied Principles of Agribusiness and Natural Resources Occupations and an item bank of multiple choice test items and answer keys for the common core instructional areas of agricultural business management, agricultural mechanics, and leadership and citizenship development. Criteria for selecting items from the item bank for testing purposes were recommended. (Two tables display summary statistics and complete item analyses for each question in the item bank. Appendixes, amounting to almost three-fourths of the report, contain the list of competencies, test items, and answer keys.) (YLB)

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COMPETENCY TEST ITEMS FOR APPLIED PRINCIPLES OF AGRIBUSINESS AND NATURAL RESOURCES OCCUPATIONS

COMMON CORE COMPONENT

A Report of Research

Jimmy G. Cheek
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U.S. DEPARTMENT OF EDUCATION
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Introduction

The Vocational Education Act of 1963 and the Vocational Education Amendments of 1968 provided the foundation upon which the scope of traditional vocational education programs have been broadened and new programs have been initiated. As a result, vocational agriculture/agribusiness has been characterized by accelerated growth, expanded program offerings, and increased emphasis. For example, in 1967-68 Florida had 229 vocational agriculture/agribusiness departments and employed 284 teachers. According to Kirkland (1979), by the 1978-79 school year the number of departments had increased 62 percent (373 departments) and the number of teachers employed had increased by 103 percent (576 teachers). In the 1982-83 school year, there were 409 departments employing 573 vocational agriculture teachers (Department of Agricultural and Extension Education, University of Florida, 1982).

During this same period of time, there has been an increased emphasis regarding the need to develop and improve approaches for evaluating educational programs. Currently, a great deal of attention is being given to the concept of accountability in education. Effective educational evaluation is vital for improving education programs since it provides the basis upon which to determine the merits of existing programs, the need for new programs, and revision of existing programs.

In this atmosphere of accountability, legislators, educators, and the general public are asking if expenditures for vocational education are producing desired results and funding agencies are asking for evaluative information upon which to base policy decisions. Moreover, a review of the Vocational Educational Amendments of 1976 (American Vocational Journal, 1976) makes it clear that the writers of that legislation expect

evaluations of vocational education programs to yield data and information useful in formulating on-going and future policy and program decisions. However, from a review of a report to the Governor of Florida, it is obvious that sufficient data regarding the effectiveness of vocational education is not available, thus lending further support for the need to investigate this area (Governor's Commission on Secondary Schools, 1983).

In addition, competency-based education is a development receiving considerable attention in the literature and from professional educators. Florida is currently involved in a major effort to implement competency-based vocational education (Harrington, Johnson, Fagan, Freedman, and Reichman, 1976; Fagan and Huckaby, 1982). Using this instructional model, the curriculum is built around objectives that industry recognizes as necessary for employment. In addition, this model places major emphasis on evaluation of educational programs in terms of pre-specified outcomes, requiring that program outcomes be specified in terms of the behaviors, competencies, and performance capabilities expected of students completing instructional programs. Consequently, one measure of program effectiveness is the extent to which students completing or leaving an instructional program possess or fail to possess the behaviors and competencies specified in the instructional objectives. In instructional systems of this nature, test information is not only used to evaluate program effectiveness, but can also be used to evaluate the student's mastery of instructional objectives as an aid to placing students in appropriate employment or in additional instructional situations (Glasser and Nitko, 1971). Instruments or tests designed especially for this purpose are known as criterion-referenced tests (Hambleton and Novick, 1972).

Criterion-referenced tests are defined as tests made up of items keyed to a set of specific behavioral objectives (Ivens, 1970). Others have defined a criterion-referenced test as one that is deliberately constructed so as to yield measurements that are directly interpretable in terms of specified performance standards (Glasser and Nitko, 1971).

Criterion-referenced instruments have not been developed so that program effectiveness and student achievement can be assessed in most areas of agribusiness and natural resources. This activity was designed to develop criterion-referenced tests for the Common Core Component of Applied Principles of Agribusines and Natural Resources Occupations.

Applied Principles of Agribusiness and Natural Resources Occupations (3720) is primarily designed to be taught at the tenth grade level and students who enroll should have completed Fundamentals of Agribusiness and Natural Resources Occupations (3710) in the ninth grade. Applied Principles consists of three components with each component designed to utilize one-third of the school year (60 days). All students complete the common core component consisting of competencies common to all agricultural/agribusiness occupations. The common core competencies are divided into three instructional areas: agricultural business management; agricultural mechanics; and leadership and citizenship development. Instructors then select two specialized components to complete the Applied Principles course from the following taxonomies: agricultural mechanics; agricultural production; agricultural products; agricultural resources; agricultural supplies and services; forestry; and ornamental horticulture. Each of these components are taught for one-third of the school year (60 days) and these two components should be selected so as to provide the basic competencies for specialized programs offered in the eleventh and twelfth grade.

More detailed descriptive infromation and specific planning data are available in the publication A Suggested Curriculum Guide for Applied Principles of Agribusiness and Natural Resources Occupations (Panhandle Area Educational Cooperative and Florida Department of Education, 1980).

Purpose

The central purpose of this study was to develop and field test written criterion-referenced tests for the common core component of Applied Principles of Agribusiness and Natural Resources Occupations. In order to achieve this purpose, the following objectives were developed as guidelines for conducting the research:

1. Develop and compile a list of competencies for the common core component of Applied Principles of Agribusiness and Natural Resources Occupations.

2. Develop criterion-referenced tests for each of the three instructional areas in the common core component of Applied Principles of Agribusiness and Natural Resources Occupations.

3. Field test the instruments in order to determine instrument validity and reliability, and to determine item difficulty, item discrimination, and point biserial correlation for each test item.

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Procedure

Objective 1

Based upon the objectives identified in the Applied Principles of Agricultural Occupations Curriculum Guide (Curriculum Materials Center, 1978), a list of competencies was generated and compiled. This list was reviewed and modified by a group of teachers, Florida Department of Education regional consultants for agribusiness, and University of Florida faculty members at a Curriculum Development Workshop held in August, 1980 (Panhandle Area Educational Cooperative and Florida Department of Education, 1980). The competency statements reported in this document have undergone minor refinements in wording since their original publication in 1980. These competencies represent the performance standards relating to Applied Principles that students should master prior to entering specialized programs of agribusiness and natural resources education.

Objective 2

Using the competency statements derived in Objective 1, test items were developed for each competency statement. A consultant staff of teachers, regional consultants, and University faculty members was asked to review and revise the items developed. The consultant staff was specifically asked to accomplish the following tasks:

1. To review and revise individual test items.

2. To make certain that the items were technically accurate.

3. To verify that the item did access the competency it was purported to address.

As a result of this activity, minor changes were made in the tests.

Objective 3

The instruments were field tested by administering them to groups of students who had completed Applied Principles of Agribusiness and Natural Resources Occupations. The data from the field tests were analyzed for item difficulty, item discrimination, and point biserial correlation. A Kuder-Richardson 20 Correlation was calculated as the measure for test reliability.

Results

The major results of this project were: a list of specific competencies for the common core component of Applied Principles of Agribusiness and Natural Resources Occupations (see Appendix A) and an item bank of multiple choice test items and answer keys for the common core instructional areas of: agricultural business management (see Appendix B); agricultural mechanics (see Appendix C); and leadership and citizenship development (see Appendix D).

Summary statistics relative to the common core component of Applied Principles are presented in Table 1. The estimates of reliability of the tests by the Kuder-Richardson 20 correlation coefficients were as follows: agricultural business management, .83; agricultural mechanics, .95; and leadership and citizenship development, .89.

TABLE 1

Summary Statistical Data Relative to the Common Core Component of Applied Principles of Agribusiness and Natural Resources Occupations

Instructional Area	Factor	Statistic
Agricultural Business Management		
	Number of Students Taking Test	32.00
	Total Number of Items on Exam	53.00
	Highest Possible Score	53.00
	High Score	38.00
	Low Score	10.00
	Mean Score	24.41
	Median Score	23.00
	Mode Score	22.00
	Standard Deviation	7.72
	Standard Error of Measurement	3.16
	Kuder-Richardson 20 Correlation	0.83
Agricultural Mechanics		
	Number of Students Taking Test	19.00
	Total Number of Items on Exam	105.00
	Highest Possible Score	105.00
	High Score	79.00
	Low Score	12.00
	Mean Score	51.95
	Median Score	54.00
	Mode Score	12.00
	Standard Deviation	18.69
	Standard Error of Measurement	4.32
	Kuder-Richardson 20 Correlation	0.95
Leadership and Citizenship Development		
	Number of Students Taking Test	44.00
	Total Number of Items on Exam	62.00
	Highest Possible Score	62.00
	High Score	52.00
	Low Score	8.00
	Mean Score	29.09
	Median Score	30.00
	Mode Score	25.00
	Standard Deviation	10.60
	Standard Error of Measurement	3.49
	Kuder-Richardson 20 Correlation	0.89

A complete item analysis for each question in the item bank relative to agricultural business management; agricultural mechanics; and leadership and citizenship development is displayed in Tables 2, 3, and 4 respectively. It may be observed that three statistics are presented: item difficulty; item discrimination; and item point biserial coefficient. Item difficulty (index of difficulty) is defined as the proportion of students who correctly answer an item. The average difficulty of a test is the average of the individual item difficulties. For maximum discrimination among students, an average difficulty of .60 is ideal.

Item discrimination (index of discrimination) is a numerical indicator of how the poorer students answered the item as compared to how the better students answered the item. The scores are divided into three groups with the top 27 percent of the scores in the upper group and the bottom 27 percent in the lower group. The number of correct responses for an item by the lower group is subtracted from the number of correct responses for the item in the upper group. The difference in the number correct is divided by the number of students in either group. The process is repeated for each item.

The point-biserial correlation coefficient is computed for the relationship between a variable for which there are only two categories of scores and a variable for which the scores exist on a continuous distribution. Thus, it is a correlation coefficient indicating the relative degree of relationship between how a student responds to an item and the students total score on the test.

TABLE 2

Item Analysis of the Item Bank of Questions for the Common Core Instructional Area of Agricultural Business Management

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
1	0.63	0.38	0.41
2	0.13	0.00	0.09
3	0.47	0.50	0.31
4	0.31	0.25	0.28
5	0.53	0.50	0.54
6	0.44	0.50	0.32
7	0.59	0.75	0.58
8	0.75	0.25	0.24
9	0.69	0.38	0.36
10	0.53	0.63	0.63
11	0.50	0.75	0.46
12	0.47	0.38	0.20
13	0.50	0.75	0.58
14	0.31	0.13	0.02
15	0.66	0.38	0.23
16	0.66	0.38	0.19
17	0.22	-0.25	-0.16
18	0.81	0.38	0.38
19	0.75	0.13	0.05
20	0.66	0.50	0.40
21	0.84	0.63	0.58
22	0.41	0.88	0.67
23	0.63	0.63	0.46
24	0.09	-0.38	-0.42
25	0.84	0.50	0.50
26	0.63	0.63	0.51
27	0.56	0.38	0.25
28	0.69	0.50	0.42
29	0.28	0.00	0.00
30	0.44	0.00	-0.05

Table 2 (continued)

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
31	0.19	0.00	-0.00
32	0.59	0.88	0.61
33	0.56	0.63	0.39
34	0.31	0.13	0.10
35	0.56	0.75	0.53
36	0.13	-0.13	-0.22
37	0.53	0.63	0.48
38	0.38	0.13	0.02
39	0.31	-0.13	-0.06
40	0.31	0.75	0.56
41	0.78	0.63	0.60
42	0.53	0.50	0.33
43	0.31	-0.13	0.10
44	0.41	0.50	0.39
45	0.19	-0.25	-0.13
46	0.16	0.00	0.03
47	0.41	0.63	0.56
48	0.19	0.00	0.03
49	0.42	0.50	0.46
50	0.53	0.75	0.57
51	0.41	0.88	0.74
52	0.34	0.50	0.55
53	0.28	0.63	0.51

TABLE 3

Item Analysis of the Item Bank of Questions for the Common Core Instructional Area of Agricultural Mechanics

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
1	0.84	0.20	0.39
2	0.84	0.20	0.39
3	0.63	0.00	0.18
4	0.74	0.20	0.20
5	0.47	-0.20	-0.05
6	0.84	0.20	0.33
7	0.32	0.20	0.09
8	0.42	0.80	0.44
9	0.47	0.40	0.20
10	0.42	0.60	0.28
11	0.37	0.20	0.10
12	0.58	0.40	0.41
13	0.47	0.80	0.37
14	0.58	0.20	0.24
15	0.63	-0.20	-0.17
16	0.58	0.20	0.28
17	0.37	-0.40	-0.22
18	0.21	-0.40	-0.45
19	0.58	0.60	0.43
20	0.58	0.60	0.37
21	0.16	-0.20	-0.22
22	0.00	0.00	0.00
23	0.32	0.00	0.03
24	0.79	0.40	0.46
25	0.63	0.20	0.11
26	0.47	0.00	0.25
27	0.32	0.20	0.22
28	0.58	0.60	0.42
29	0.89	0.00	-0.07
30	0.42	0.20	0.22

Table 3 (continued)

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
31	0.84	0.40	0.56
32	0.37	0.20	0.23
33	0.26	-0.20	-0.09
34	0.42	0.20	0.21
35	0.74	0.60	0.41
36	0.89	0.40	0.55
37	0.37	-0.20	-0.20
38	0.68	0.20	0.32
39	0.58	0.60	0.37
40	0.00	0.00	0.00
41	0.74	0.40	0.42
42	0.74	0.00	0.01
43	0.37	-0.20	-0.03
44	0.26	0.00	0.19
45	0.47	0.00	-0.02
46	0.63	0.00	0.10
47	0.53	-0.40	-0.14
48	0.84	0.40	0.54
49	0.74	0.60	0.61
50	0.74	0.60	0.64
51	0.68	0.60	0.67
52	0.47	0.60	0.46
53	0.68	0.40	0.53
54	0.74	0.60	0.61
55	0.47	0.00	0.16
56	0.79	0.20	0.25
57	0.84	0.60	0.71
58	0.42	0.00	0.11
59	0.84	0.60	0.71
60	0.42	0.40	0.36
61	0.63	1.00	0.64
62	0.32	1.00	0.70
63	0.53	1.00	0.76
64	0.58	0.80	0.68
65	0.42	1.00	0.74

Table 3 (continued)

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
66	0.32	0.00	0.10
67	0.53	0.60	0.49
68	0.47	1.00	0.62
69	0.32	0.40	0.18
70	1.00	0.00	0.74
71	0.63	0.80	0.58
72	0.63	1.00	0.69
73	0.58	1.00	0.68
74	1.00	0.00	0.69
75	0.53	1.00	0.64
76	0.26	0.60	0.51
77	0.32	0.80	0.57
78	0.47	1.00	0.72
79	0.32	0.80	0.63
80	0.32	0.80	0.63
81	0.53	1.00	0.69
82	0.11	0.40	0.36
83	0.47	1.00	0.72
84	0.16	0.20	0.29
85	0.32	1.00	0.57
86	0.47	0.60	0.34
87	0.47	0.60	0.38
88	0.53	0.40	0.38
89	0.47	1.00	0.62
90	0.42	1.00	0.74
91	0.53	0.60	0.50
92	0.53	1.00	0.75
93	0.68	1.00	0.77
94	0.63	1.00	0.72
95	0.37	1.00	0.69
96	0.53	1.00	0.66
97	0.47	0.40	0.32
98	0.63	0.80	0.52
99	0.11	0.20	0.34
100	0.32	0.80	0.64

Table 3 (continued)

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
101	0.47	1.00	0.72
102	0.32	0.40	0.34
103	0.32	0.60	0.47
104	0.47	0.40	0.47
105	0.37	0.20	0.25

TABLE 4

Item Analysis of the Item Bank of Questions for the Common Core Instructional Area of Leadership and Citizenship Development

Item Bank Number	Item Difficulty	Item Discrimination	Item point Biserial Correlation
1	0.32	-0.27	-0.11
2	0.23	0.18	0.18
3	0.27	0.18	0.18
4	0.34	0.27	0.27
5	0.32	0.09	0.01
6	0.75	0.73	0.53
7	0.30	0.18	0.30
8	0.45	0.55	0.32
9	0.45	0.64	0.57
10	0.59	0.36	0.27
11	0.43	0.27	0.24
12	0.43	0.00	0.03
13	0.30	0.09	0.06
14	0.59	0.82	0.63
15	0.32	-0.09	-0.10
16	0.30	0.09	0.11
17	0.34	0.45	0.41
18	0.68	0.73	0.66
19	0.82	0.55	0.50
20	0.25	0.18	0.10
21	0.16	-0.45	-0.47
22	0.39	0.18	0.18
23	0.48	0.27	0.28
24	0.66	0.64	0.60
25	0.70	0.55	0.50
26	0.70	0.73	0.62
27	0.41	-0.18	-0.17
28	0.39	0.45	0.29
29	0.41	0.27	0.16
30	0.59	0.91	0.73
31	0.52	0.91	0.67
32	0.50	0.36	0.35
33	0.48	0.45	0.42
34	0.41	0.36	0.28
35	0.75	0.55	0.51

Table 4 (continued)

Item Bank Number	Item Difficulty	Item Discrimination	Item Point Biserial Correlation
36	0.41	0.55	0.51
37	0.68	0.73	0.59
38	0.39	0.45	0.32
39	0.57	-0.09	-0.07
40	0.50	0.64	0.39
41	0.18	0.18	0.30
42	0.32	0.55	0.43
43	0.09	0.00	0.06
44	0.27	0.64	0.51
45	0.51	0.45	0.45
46	0.39	0.91	0.66
47	0.39	0.27	0.20
48	0.50	0.36	0.23
49	0.61	0.91	0.71
50	0.61	0.36	0.29
51	0.61	0.91	0.70
52	0.43	0.73	0.54
53	0.77	0.55	0.58
54	0.50	0.45	0.43
55	0.30	0.00	-0.05
56	0.55	0.64	0.46
57	0.55	0.82	0.75
58	0.59	0.55	0.51
59	0.61	0.82	0.72
60	0.61	0.82	0.66
61	0.70	0.45	0.39
62	0.52	0.45	0.31

It is recommended that the following criteria be used for selecting items from the item banks for testing purposes:

1. Select items that pertain to the instructional objectives which specify the outcomes sought in the instructional program.

2. Select items that have a positive item discrimination index and a positive point biserial correlation coefficient.

3. Select items that were answered correctly by a substantial percentage of the students as indicated by the item difficulty score.

4. Select items that have high point biserial correlation coefficients thus indicating a relatively high relationship between how a student responds to the item and the student's total score on the test.

Recommendations

Based upon the results obtained from this activity, the following recommendations were made:

1. The student assessment tests can be used by teachers who are interested in determining how well their students are achieving the competencies that are prescribed for the Applied Principles curriculum. These data should provide a reliable method of determining which instructional areas need further development or improvement.

2. It is recommended that the criteria, specified in the results section of this document, be used to select items for testing purposes.

3. Research be initiated to assess program effectiveness and student achievement in Applied Principles using a sample of the programs in Florida.

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APPENDIX A

Competencies for the Common Core Component
of Applied Principles of Agribusiness and
Natural Resources Occupations

Common Core Instructional Area Competencies

Agricultural Business Management

1. The student will demonstrate knowledge necessary for developing an on going agricultural enterprise.
2. The student will demonstrate knowledge necessary for estimating costs and returns of an agricultural enterprise.
3. The student will demonstrate knowledge necessary for selecting a market for products of agricultural enterprises.
4. The student will define a good credit rating.
5. The student will develop a personal budget.
6. The student will make deposits, write checks, and balance a check book.
7. The student will determine insurance needs.
8. The student will list or describe available sources of agricultural credit, both private and governmental.
9. The student will determine the type of credit needed, long-term, intermediate-term, and short-term.
10. The student will compute interest rates.
11. The student will describe advantages and disadvantages, and list local examples of each of the following systems: Individual Ownerships; Partnerships; Cooperatives; Corporations.
12. The student will list or describe agricultural agencies and the services they render.
13. The student will locate local agricultural agencies' offices.
14. The student will demonstrate the ability to utilize the services of agricultural agencies.

Agricultural Mechanics

1. The student will identify and properly demonstrate the use of shop and laboratory safety equipment.

2. The student will identify the safety areas in the shop and cite their purpose.

3. The student will identify the different types of fires and identify the equipment used to extinguish the various types of fires.

4. The student will identify injuries where simple first-aid can be administered and demonstrate techniques used in first-aid to care for the injury.

5. The student will demonstrate the proper use of power tools and equipment in the shop.

6. The student will demonstrate proper safety practices that apply to the power tools and equipment in the shop.

7. The student will perform daily check on selected equipment including lubrication, belts, chains, blades, guards, and damage.

8. The student will identify all parts of a small gasoline engine and describe their function.

9. The student will identify parts of the ignition system and be able to service and/or replace parts including the battery, coil, starter, switch, spark plugs, conductors, points, condensor, alternator, generator, and voltage regulator.

10. The student will identify parts of the fuel system and service and/or replace parts.

11. The student will trouble shoot small gasoline engines for minor problems and make repair or replacement of engine parts.

12. The student will perform a daily check on selected equipment powered by a small gasoline engine.

13. The student will perform a daily inspection on a tractor.

14. The student will service the fuel system on a tractor engine.

15. The student will service the ignition system on a tractor engine.

16. The student will demonstrate the use of service manuals for tractors and tractor equipment.

17. The student will demonstrate proper driving and handling techniques on selected tractor and tractor equipment.

Leadership and Citizenship Development

1. The student will cite the purpose of committees.
2. The student will serve effectively on a committee.
3. The student will list or identify different types of committes.
4. The student will give a committee report.
5. The student will state or describe the purpose of the Program of Activities (POA).
6. The student will list the major divisions of the POA.
7. The student will be able to suggest local activities for the POA.
8. The student will list major criteria to consider in choosing activities for the POA.
9. The student will choose award programs appropriate to students' interest and SOEP.
10. The student will properly complete awards applications.
11. The student will describe chapter award activities.
12. The student will prepare a meeting agenda.
13. The student will recognize the role of members and the chairman of an organization.
14. The student will demonstrate how to handle and dispose of motions.
15. The students will apply their knowledge of conducting a meeting to other school and community groups.
16. The student will recognize citizen responsibilities.
17. The student will conduct him/herself properly in different situations regarding citizenship.
18. The student will show respect for other views and opinions.
19. The student will complete job application forms.

20. The student will choose a topic for an oral report.

21. The student will prepare an outline for an oral report.

22. The student will give an oral report.

23. The student will defend the presentation of an oral report to peers.

APPENDIX B

Item Bank of Multiple Choice Test Items
and Answer Key for the Common Core
Instructional Area of Agricultural
Business Management

ITEM BANK OF TEST ITEMS FOR THE COMMON CORE
INSTRUCTIONAL AREA OF AGRICULTURAL
AGRICULTURAL BUSINESS MANAGEMENT

Competency: The student will demonstrate knowledge necessary for developing an on going agricultural enterprise.

1. Based on the "Return Per $100 Investment" table below, a farmer with $1000 to invest in his farm business should invest the most in:

   A. Bonds
   B. Buildings
   C. Machinery
   D. Dairy Equipment

Returns Per $100 Investment

Capital	Bonds	Building	Machinery	Dairy Equipment
1st $100	$104	$155	$158	$170
2nd $100	104	148	143	160
3rd $100	104	136	139	151
4th $100	104	115	135	140
5th $100	104	100	130	136

2. If a farmer contracts with a company for the aerial application of herbicide, the expense would be entered in which of the following expense columns of the farmer's records?

   A. Hired labor
   B. Machine hire and trucking
   C. Crop supplies
   D. Capital investment

3. The first step to be taken by a farmer beginning to keep records is to:

   A. Set values or prices on farm assets
   B. Make a farm inventory
   C. Determine investment value
   D. Make a physical count of assets and liabilities

4. Which of the following items is a capital investment for a farm enterprise?

   A. Dairy cow
   B. Lease of a tractor
   C. Steers
   D. Propane for grain dryer

Competency: The student will demonstrate knowledge necessary for estimating costs and returns of an agricultural enterprise.

5. Referring to fixed costs and variable costs as they relate to the farm business, which of the following costs must be paid by the farmer even if nothing is produced?

   A. Variable cost
   B. Fixed cost
   C. Both variable and fixed costs
   D. Neither variable nor fixed costs

6. An example of a fixed cost is:

   A. Hired Labor
   B. Interest
   C. Machinery repairs
   D. Feed

7. An example of a variable cost is:

   A. Interest on investment in land
   B. Buildings
   C. Machinery
   D. Machinery repairs

8. How may returns be defined?

   A. Return on total investment
   B. Return on owner's equity
   C. Return on financed portion of the investment
   D. Both A & B

9. Costs and returns should be completed every three years for tax purposes:

   A. True
   B. False

10. Using the information provided below, determine the gross return per acre from producing corn in this example.

    A. $125.60
    B. $171.15
    C. $153.75
    D. $275.00

    Yield -- 110 bushels per acre.
    Price of corn -- $2.50 per bushel
    Costs (per acre) -- Seed $8.00
    Chemicals $6.50
    Fertilizer $40.50
    Tractor and machinery use $19.00
    Labor $19.50
    Land Value $435 (5% int.)
    Taxes $6.00

11. Why is net cash income not an accurate picture of true farm returns?

    A. Beginning and closing inventories are not accounted for.
    B. Depreciation is not considered.
    C. Cash value of farm products consumed by the family is not included.
    D. All of the above.

12. Which of the following is the best measure of net farm returns?

    A. Net cash income.
    B. Net farm income.
    C. Total cash receipts.
    D. What goes to the savings account.

13. What is the added return above the cost of the second 60 lb. unit of nitrogen added?

A. $20.00
B. $15.00
C. $ 5.00
D. No added return

USE THIS TABLE TO ANSWER QUESTION 13

Effect of Nitrogen on Corn

Lbs. N Applied	Yield (Bushels)	Added Yield for 60 lbs. N	N Cost @ $.25/lb. for adding 60 lb. N	Added Yield @ $2.50/bu.	Added Return Above N Cost
0	65	0	0	0.00	--
60	100	35	15	87.00	$20
120	130	30	15	75.00	15
180	150	20	15	50.00	5
240	170	20	15	50.00	5
300	165	-5	15	-122.50	-10

Competency: The student will demonstrate knowledge necessary for selecting a market for products of agricultural enterprises.

14. When you have an agricultural product to sell, you can sell it when and where you please and for the highest possible price. Which of the following choices can be correctly matched with this statement?

A. Auction Marketing.
B. Cooperative Marketing.
C. Free Market System.
D. Non-competitive Market.

15. Public sale of livestock usually sold in sales ring on a particular day of the week to the highest bidder is a description of which of the following choices?

A. Auction.
B. Terminal Market.
C. Cooperative Marketing.
D. Local Dealer.

16. An egg producer who sells graded eggs directly to the consumer is using which of the following market alternatives?

    A. Wholesale selling.
    B. Retail selling.
    C. Contract selling.

17. Which of the following is the major method of marketing oranges for Florida growers?

    A. Fresh fruit to consumer.
    B. Fresh fruit to processing plants.
    C. Concentrated juice to consumers.
    D. Concentrated juice to brokers.

Competency: The student will define a good credit rating.

18. To develop a good credit rating, a person should:

    A. Pay for everything in cash immediately.
    B. Apply for as many credit cards as possible.
    C. Take out a small term loan and repay it according to the payment plan.
    D. Charge everything and don't pay until you receive the overdue payment notice.

19. Which of the following people would you consider to have a good credit rating:

    A. Jeff Summers owns his own home and car which his father gave him.
    B. Jill Winters has worked at eight different jobs this pay year.
    C. Mark Spring has two school loans from a local bank and is not behind in payments.
    D. Sara Fall put a television on layaway at the local department store in August, 1979, and failed to make any payments.

20. Which of the following practices are not acceptable for developing a good credit rating?

    A. Keep good records of farm enterprise.
    B. Make loan payments on time.
    C. Borrowing from a credit agency to pay off a loan made by a bank.
    D. Filling out loan applications with correct information.

Competency: The student will develop a personal budget.

21. To determine a personal budget accurate daily records on expenses and incomes must be kept.

    A. True
    B. False

22. Which of the following is the best proof of purchase for a personal record system?

    A. Cancelled check.
    B. Original invoice.
    C. Cash register sales slip.
    D. The purchased item.

23. When developing a personal budget for the upcoming year, consider all of the following choices except:

    A. How to make income meet all expenses.
    B. How to spend more than earned by using credit.
    C. How to save a little money each month.
    D. How to be economically prepared for emergencies.

Competency: The student will make deposits, write checks, and balance a checkbook.

24. When writing a deposit slip, which one of the following numbers is used to identify a check to be deposited?

Your Name — **a. Check Number: 104**

d. Your Address — **b. Bank Number: 63-1009 / 631**

_____,19_____

Pay to the Order of _____ **$**_____

_____ **Dollars**

Bank Name

Address

Memo _____ _____ _____

: : : : 603110092::0652 0000128287 _____

c. Personal Checking Account Number

25. If a mistake is made while writing a check amount, just cross it out and write over the mistake. The check will still be valid.

A. True
B. False

26. In order to balance a checkbook, a person must do which of the following.

A. Make sure each outstanding check is accounted for in the records.
B. Check computed balance with the banks statement of at the end of the checking period.
C. Subtract the sum of all outstanding checks from the banks statement of balance.
D. All of the above.

Competency: The student will determine insurance needs.

27. The basic purpose of Federal Crop Insurance is to:

A. Assure the farmer of a profit in a bad year.
B. Provide insurance coverage for crop and livestock losses.
C. Insure the recovery of crop production costs in the event of a disaster.
D. Insure a market for agricultural products.

28. To make an accurate determination of insurance needs, which of the following choices must be considered.

A. Appraised value of buildings and equipment.
B. Total production costs for crops.
C. Health insurance for farm accidents.
D. All of the above.

Competency: The student will list or describe available sources of agricultural credit, both private and governmental.

29. Which of the following institutions is NOT a source of agricultural credit?

A. Federal Land Bank
B. Farmers Home Administration
C. Production Credit Association
D. Federal Savings and Loan

30. Which of the following institutions is NOT a source of private agricultural credit?

A. Production Credit Association
B. Florida Savings and Loan Association
C. Insurance Companies
D. Federal Land Bank

Competency: The student will determine the type of credit needed; long-term; intermediate-term; or short-term.

31. When purchasing farm land with a low down payment, the young farmer can expect to receive which of the following types of loans?

A. Short-term with high interest.
B. Short-term with low interest.
C. Long-term with high interest.
D. Long-term with low interest.

32. In order to purchase seed for this years corn crop the wise farmer would most likely seek out which of the following types of loans?

A. Short-term with high interest.
B. Long-term with high interest.
C. Short-term with low interest.
D. Long-term with low interest.

Competency: The student will compute interest rates.

33. Using the simple interest method of calculating interest on a $5,000 loan for 5 years at 10% interest rate, the interest to be paid would be?

A. $500.00
B. $1,000.00
C. $2,500.00
D. $7,500.00

34. A $4,000 loan at 12% interest on full principal is to be paid back in 12 monthly installments. What is the amount of each monthly payment.

A. $373.33
B. $400.00
C. $453.33
D. $500.00

35. A $16,000 loan for a combine at 8-1/2% simple interest is to be paid in 4 equal payments over a 4-year period. How much will the first payment be after one year including both principal and interest?

A. $4,000
B. $5,360
C. $5,880
D. $6,400

36. A local bank will loan 75% of a person's net worth. A farmer has $120,000 of liabilities, assets of $200,000, plus the farmer owns $50,000 worth of farm machinery and $130,000 worth of land and buildings. What is the greatest amount of money the bank will loan him?

A. $285,000
B. $195,000
C. $100,000
D. $ 60,000

37. A 1-1/2% rate of interest per month is the same as paying an annual interest rate of?

A. 12%
B. 15%
C. 18%
D. 24%

38. Which of the following capital purchases qualified for a full 10% (as of 1975) investment credit?

A. Used grain bin
B. New tractor with 6-year life
C. Boar with expected 3-year life
D. New machinery shed

39. The most important thing to consider when borrowing money for a loan is?

A. Interest rate
B. Actual cost of loan
C. Flexibility in repayment
D. Type of lending institution

Competency: The student will describe advantages and disadvantages, and list local examples of each of the following systems: Individual Ownership; Partnership; Cooperative; and Corporation.

40. Which one of the following types of business is used by the owner-patrons?

A. Individual Ownership
B. Partnership
C. Corporation
D. Cooperative

41. Which one of the following types of business is owned by the stock holders?

A. Individual Ownership
B. Partnership
C. Corporation
D. Cooperative

42. If a vote is needed, who votes in a partnership?

A. Stockholders
B. Partners with more than 50% ownership
C. All partners
D. Partners and financial backers

43. Which type of business has a limit for returns on ownership capital?

A. Individual Ownership
B. Partnership
C. Corporation
D. Partners and financial backers

44. Which of the following conditions is a disadvantage to individual ownership?

A. Only one person has complete control
B. Only one person responsible for all liability
C. Very little capital is tied up
D. Generating income is unlimited

45. Which of the following conditions is an advantage to a cooperative business?

A. Complete control by major stockholders
B. Improved quality and efficiency of work being done
C. Each stockholder purchases one share
D. All of the above

Competency: The student will list or describe agricultural agencies and the services they render.

46. Which agency loans money to farmers based on products that have a government price support and that can be used as repayment of the loan if necessary?

A. Commodity Credit Corporation
B. Production Credit Association
C. Farm Bureau
D. Cooperative Extension Office

47. From which of the following credit agencies would the farmer be more likely to obtain a 30 year loan for a 300 acre farm?

A. Production Credit Association
B. Prudential Life Insurance Company
C. Bank Americard
D. Federal Land Bank

48. From which of the following agencies can the farmer get the latest research information on the proper application of agricultural chemicals?

A. Farm Bureau
B. Production Credit Association
C. Cooperative Extension Office
D. Local Banks

Competency: The student will locate locate local agricultural agencies offices.

49. Concerning agricultural finance, which of the following organizations are located on a local level rather than a regional level?

A. Federal Land Bank
B. Bank for Cooperatives
C. Federal Reserve Bank
D. Production Credit Association
E. Both A and D

50. A state-wide county based government agency which serves as an educational link between university researchers and farmers is the Cooperative Extension Service.

A. True
B. False

Competency: The student will demonstrate the ability to utilize the services of agricultural agencies.

51. What is used by agricultural credit agencies in determining a person's credit ability?

A. Assets
B. Net Worth
C. Liabilities
D. Value of land owned
E. All of the above

52. It is profitable for a farmer to borrow money to expand his farm business when the borrowed money:

A. Returns more than the cost of borrowing it.
B. Can be secured at a good interest rate.
C. Can improve the level of production.
D. Will increase volume of business.

53. A farmer seeking to borrow money for the purchase of corn seed should go to which of the following organizations for credit?

A. Federal Land Bank
B. Production Credit Association
C. Local Bank
D. Bank for Cooperatives
E. Both B and C

ANSWER KEY
FOR COMMON CORE AREA
AGRICULTURAL BUSINESS MANAGEMENT

1.	D	40.	D
2.	B	41.	C
3.	B	42.	C
4.	A	43.	B
5.	B	44.	B
6.	B	45.	C
7.	D	46.	A
8.	D	47.	D
9.	B	48.	C
10.	C	49.	E
11.	D	50.	A
12.	B	51.	E
13.	B	52.	A
14.	C	53.	E
15.	A		
16.	B		
17.	B		
18.	C		
19.	C		
20.	C		
21.	A		
22.	A		
23.	B		
24.	B		
25.	B		
26.	D		
27.	C		
28.	D		
29.	D		
30.	B		
31.	D		
32.	C		
33.	C		
34.	A		
35.	B		
36.	B		
37.	C		
38.	B		
39.	B		

APPENDIX C

Item Bank of Multiple Choice Test Items
and Answer Key for the Common
Core Instructional Area of
Agricultural Mechanics

ITEM BANK OF TEST ITEMS FOR THE
COMMON CORE INSTRUCTIONAL AREA
OF AGRICULTRUAL MECHANICS

Competency: The student will properly identify and properly demonstrate the use of shop and lab safety equipment.

1. What is the best type of clothing to wear while working in the shop?

   A. Old and loose fitting clothes
   B. Close fitting coveralls and a cap
   C. Short pants, a T-shirt, and sandals
   D. Suit and tie

2. Which of the following types of safety equipment should be worn when operating a table saw?

   A. Gloves
   B. Goggles
   C. A hard hat
   D. All of the above

3. Which of the following is a true statement?

   A. When using a hand saw, the first stroke should be a strong downward push.
   B. For safety's sake, it is better to push on a wrench than to pull.
   C. When lifting a heavy load, the worker should bend the knees outward and keep a straight back while pushing up with the legs.
   D. It's alright to smoke cigarettes in the shop if no one complains about the smoke.

4. Which of the following compounds is a poisonous gas produced by gasoline engines, stoves, and furnaces and is one reason why mechanic shops should be well ventilated?

   A. Sulfur fumes
   B. Carbon monoxide
   C. Hydrogen
   D. Carbon dioxide

Competency: The student will identify the safety areas in the shop and cite their purpose.

5. Why is color coding used in the shop?

   A. Lessen eye strain
   B. Make dangerous parts and areas more visable
   C. Remind us to be safe and cautious with the equipment
   D. A, B, and C

6. The color red is used to indicate:

   A. Defective equipment
   B. The location of safety equipment such as goggles or gloves.
   C. Fire fighting equipment and its location.
   D. Electrical equipment

7. Which color indicates safety equipment and its location?

   A. Blue
   B. Yellow
   C. Green
   D. Gray

Competency: The student will identify the different types of fires and identify the equipment used to extinquish the various fires.

Match the choices on the right with the correct type of fire in questions 8 through 10 on the left.

   A. Class A
   B. Class B
   C. Class C

8. An electrical fire is designated_____

9. A paper or wood fire is designated_____

10. A gas or diesel fire is designated_____

11. In case of a Class A fire , which of the following extinguishers should be used?

   A. Pressurized H20
   B. Dry chemical
   C. CO2

12. For class B and C fires, which of the following extinguishers should NOT be used?

    A. Pressurized H2O
    B. Dry chemical
    C. CO2

Competency: The student will identify injuries where simple first-aid can be administered and demonstrate techniques used in first aid to care for the injury.

13. When administering artificial respiration, how many times per minute should the victims lungs be inflated?

    A. 5
    B. 12
    C. 20
    D. 40

14. A victim should NOT be moved immediately following an accident if which of the following conditions is suspected?

    A. Fracture
    B. Burn
    C. Bruise
    D. Severed artery

15. In general, the first thing to do after any accident is to:

    A. Check to see if the victim is bleeding and stop the bleeding if necessary.
    B. Leave the victim to call an ambulance
    C. Move the victim to a quiet place.
    D. Treat the victim for shock

16. In case of a minor accidental burn, the general treatment is to:

    A. Apply an oily first aid cream;
    B. Flush the burn with water
    C. Peel off the burned skin and bandage the burn
    D. Place an ice pack over the burn

Competency: The student will demonstrate the proper use of power tools and equipment in the shop.

17. The motor of a portable electric drill should be running when the point of the drill bit is inserted in the punch mark.

    A. True
    B. False

18. On a belt grinder, which of the following adjustments can be moved to adjust the tightness of the belt?

    A. Idle pulley
    B. Drive pulley
    C. Belt guide wheel

19. Which of the following tools is used to straighten a grooved, rounded or out-of-round grinding wheel?

    A. Cold chisel
    B. Tool rest
    C. Wheel dresser

20. On a metal band saw, the stock should be firmly clamped in the vise to prevent breaking the blade?

    A. True
    B. False

21. When using a metal lathe, the dead centers should be lubricated with a mixture of oil and:

    A. Grease
    B. Red lead
    C. Graphite

22. When using a power grinder, what type of stones are recommended for grinding hard materials?

    A. Soft
    B. Hard
    C. Asbestos

23. Which of the following tools has as its' main function straightening the edge of lumber?

    A. Router
    B. Wood lathe
    C. Jointer
    D. Planer surfacer

24. How should a finishing sander be moved in relation to the wood grain?

    A. Against
    B. With
    C. Around and around
    D. None of the above

25. Which of the following tools is designed to machine stock lumber to exact thickness?

    A. Router
    B. Wood lathe
    C. Planer-surfacer
    D. Jointer

26. When using a bench saw, the depth of the cut is adjusted so that the blade clears the thickness of the material by:

    A. The width of the teeth
    B. The depth of the teeth
    C. One inch
    D. Two inches

27. When using a jig saw, a blade having 15 teeth per inch is recommended for what type of cutting?

    A. Rough
    B. Metal
    C. General purpose
    D. Fine

28. In general, saw cuts should be made-on which side of the line?

    A. "Waste"
    B. Left
    C. Right
    D. "Used"

29. When using a jig saw, the proper blade speed depends on the:

    A. Type of material to be cut
    B. Working speed of the operator
    C. Number of teeth per inch of blade
    D. Number of cuts to be made

30. Which of the following tools will help assure uniform width of the completed material when a portable circular saw is used for ripping?

A. Miter gauge
B. Rip guide
C. Kerf wedge
D. Guide knob

31. For long tool life, keep power tools clean and:

A. Lubricated
B. Plugged in
C. Painted

32. The proper arc length when welding with a 1/8" E6013 electrode in the flat position is about:

A. 1/16"
B. 1/8"
C. 1/4"
D. 3/8"

33. What determines the size of the welding electrode to use?

A. Metal hardness
B. Metal quality
C. Metal thickness
D. Metal's carbon content

34. An arc welder for a farm shop would be wired to a 120 volt plug.

A. True
B. False

35. When a vertical band saw blade is properly installed, the teeth should point:

A. Down
B. Up
C. Either up or down

Competency: The student will demonstrate proper safety practices that apply to the power tools and equipment in the shop.

36. With any power tool, be sure the switch is in what position before inserting the plug into an outlet?

    A. On
    B. Off

37. On a power grinder, how should the cutting edge of the tool being sharpened be held in relation to the direction of rotation?

    A. Against
    B. With

38. The location of a hole to be drilled should be marked with a:

    A. Center punch
    B. Nail punch
    C. Prick punch
    D. Pencil only

39. When using a bench saw, which of the following devices is used as a guide when cross cutting?

    A. Ripping fence
    B. Miter gage
    C. Push stick
    D. Arbor

40. When operating an arc welder you should wear a helmet with a number:

    A. 8 lens
    B. 10 lens
    C. 12 lens
    D. 14 lens

41. Which tank valve should be shut off first when you want to turn off an oxyacetylene rig?

    A. Oxygen
    B. Acetylene

42. Which of the following metals should NOT be cut indoors with an oxyacetylene torch because it produces a toxic gas?

A. Aluminum
B. Cast iron
C. Galvanized steel
D. Rusty steel

43. In what directions are adjusting screws on an oxyacetylene rig turned to close the regulators?

A. Clockwise
B. Counterclockwise

44. Never use acetylene pressures above:

A. 5 psi
B. 10 psi
C. 15 psi
D. 30 psi

Competency: The student will perform a daily check on selected equipment including lubrication, belts, chains, blades, guards, and damage.

45. Which lubricant is recommended for use in locks and key holes?

A. Heavy weight oil
B. Light weight machine oil
C. Graphite
D. WD-40

46. Inspect hoses and test connections for leaks using only:

A. Colored chalk
B. Soap suds
C. Light oil

47. What kind of sound will a cracked grinder wheel NOT have when struck lightly with a hard object?

A. Dull thud
B. Ringing
C. Flat

48. For any cutting tool, the blade should be sharpened:

A. Once a day
B. Once a week
C. Once a month
D. Whenever it seems to be dull

49. When conducting a daily inspection of frequently used power tools and equipment, the worker should include which of the following items on the cneck list?

A. General condition of belts and chains
B. Damage to guards
C. Sharpness of blades
D. Lubrication
E. All of the above

Competency: The student will identify all parts of a small gasoline engine and describe their function.

50. Which of the following parts of a small gasoline engine produces an explosion inside the combustion chamber?

A. Air cleaner
B. Carburetor
C. Magneto
D. Spark plug

51. When properly serviced, which of the following engine parts protects the internal parts of an engine from excessive wear by preventing dust particles from entering the engine?

A. Air cleaner
B. Fuel filter
C. Carburetor
D. Manifold

52. Which of the following is not a function of a carburetor?

A. To vaporize liquid fuel
B. To filter fuel from the gas tank
C. To mix the proper amount of air and fuel for efficient combustion
D. To deliver the fuel mixture to the cylinders

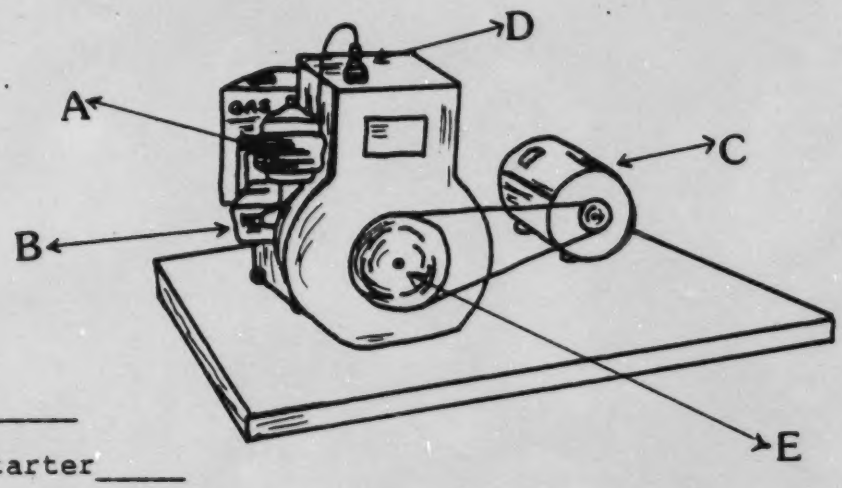
53. Each of the following parts of a small gasoline engine are directly responsible for good compression EXCEPT for the:

A. Piston
B. Valves
C. Rings
D. Fuel Pump

54. The carburetor float level should be high enough to provide an ample supply of fuel at full throttle and low enough to prevent flooding or leaking.

A. True
B. False

Match the following small engine parts with their correct location on the illustration for questions 55 through 59.



55. Carburetor_____

56. Electric starter_____

57. Spark plug_____

58. Air cleaner_____

59. Crankshaft_____

60. The choke on a gasoline engine is primarily for:

A. Increasing the richness of the fuel mixture
B. Stopping an engine that has a bad switch
C. Increasing engine speed

Competency: The student will identify parts of the ignition system and be able to service and/or replace parts including the battery, coil, starter, switch, spark plugs, conductors, points, condensor, alternator, generator, and voltage regulator.

61. The _____ stores sufficient electricity to start the engine.

A. Coil
B. Battery
C. Breaker points
D. Condensor
E. Voltage regulator

62. The _____ is used in the ignition system to provide high voltage to assure a good spark at the spark plug.

A. Coil
B. Battery
C. Breaker points
D. Condensor
E. Voltage regulator

63. When the breaker points are opened, the _____ absorbs most of the excess current and prevents arcing at the breaker points.

A. Coil
B. Battery
C. Breaker points
D. Condensor
E. Voltage regulator

64. Opening the _____ causes the spark plug to fire.

A. Coil
B. Battery
C. Breaker points
D. Condensor
E. Voltage regulator

65. A _____ controls the amount of current going from the generator while the engine is operating.

A. Coil
B. Battery
C. Breaker points
D. Condensor
E. Voltage regulator

66. The _____ should be cleaned at the manufacturer's recommended interval or sooner if the engine is being used heavily.

A. Battery
B. Spark plugs
C. Carburetor air cleaner
D. Condenser

67. The charge of a ____ can be tested using a hydrometer to measure specific gravity.

A. Battery
B. Spark plugs
C. Carburetor air cleaner
D. Condenser
E. Sediment bowl

68. The _____ should be cleaned or replaced at the manufacturer's recommended interval or sooner if the engine is being used under very dirty or dusty conditions.

A. Battery
B. Spark plugs
C. Carburetor air cleaner
D. Condenser
E. Sediment bowl

69. The _____ should be checked for capacity, shortage (or leakage) and resistance.

A. Battery
B. Spark plugs
C. Carburetor air cleaner
D. Condenser
E. Sediment bowl

Competency: The student will identify parts of the fuel system and service and/or replace parts.

Match the selected parts of the gravity-fed fuel system on the left with it's correct location in the following illustration on the right for questions 70 through 74.

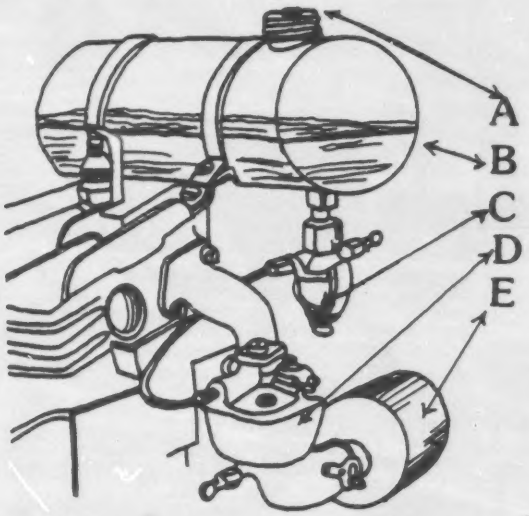
70. Fuel tank _____

71. Fuel strainer _____

72. Air cleaner _____

73. Carburetor _____

74. Vent _____



75. The screen inside the _____ should be cleaned regularly.

A. Fuel tank
B. Air cleaner
C. Fuel strainer
D. Carburetor

76. The fuel tank valve must be closed to replace the:

A. Carburetor
B. Air cleaner
C. Vent
D. Fuel mixture screw

Competency: The student will trouble shoot a small gasoline engine for minor problems and make repairs or replace engine parts.

77. The engine malfunction most likely to be caused by the ignition timing being off is:

    A. Poor compression
    B. Engine cranks but will not start
    C. Engine backfires

78. The engine malfunction most likely to be caused by improper valve clearance is:

    A. Poor compression
    B. Weak or no spark
    C. Engine cranks but will not start
    D. Engine backfires

79. The engine malfunction most likely to be caused by the engine being out of fuel is:

    A. Poor compression
    B. Weak or no spark at spark plug
    C. Engine cranks but will not start
    D. Loss of power
    E. Engine backfires

80. The engine malfunction most likely to be caused by a faulty spark plug is:

    A. Poor compression
    B. Engine cranks but will not start
    C. Engine backfires
    D. Loss of power

Competency: The student will be able to perform a daily check on selected equipment powered by a small gasoline engine.

81. A daily check list of equipment powered by a small gasoline engine should include all of the following choices EXCEPT for the:

    A. Condition of spark plugs
    B. Tightness of belts or chains
    C. Lubrication of chains or gears
    D. Oil level in crankcase

82. Each of the following parts of a chain saw powered by a small gasoline engine should be checked daily except for the:

A. Chain condition
B. Fuel strainer
C. Air filter
D. Valve clearance
E. Chain guard

83. In general, as the temperature increases the recommended viscosity of motor oil to lubricate a small gasoline engine will:

A. Decrease
B. Increase
C. Stay the same

84. It is best to drain oil from the crankcase while the engine is:

A. Hot
B. Cold
C. Running

Competency: The student will perform a daily inspection on a tractor.

85. At least once a day, all of the following parts of a tractor should be checked EXCEPT for the:

A. Coolant level
B. Air cleaner
C. Carburetor adjustment
D. Fuel level

86. Always check liquid-filled tractor tires with the valve stem in which position?

A. Top
B. Bottom
C. Side

87. Bruise breaks, buckle breaks, and side wall cracks in tractor tires can all be caused by:

A. Over inflation
B. Under inflation
C. Correct inflation

Competency: The student will service the fuel system on a tractor engine.

88. When should the air cleaner of a diesel engine be serviced?

A. Only at recommended service intervals
B. When this service is convenient to the operator
C. If the engine loses power
D. When the air cleaner is dirty

89. Which of the following parts of a fuel system should be cleaned regularly so that water can settle out and particles of scale, rust or other foreign matter will be removed from the fuel system of a tractor engine?

A. Sediment bowl and filter
B. Carburetor
C. Fuel pump
D. Fuel tank

90. When checking the adjustment of the carburetor on a tractor engine by accelerating under full load, backfiring indicates too lean a fuel mixture and dark colored smoke indicates too rich a fuel mixture.

A. True
B. False

Competency: The student will service the ignition system on a tractor engine.

Match the correct part on the left with its location in the following illustration of a tractor engine distributor.

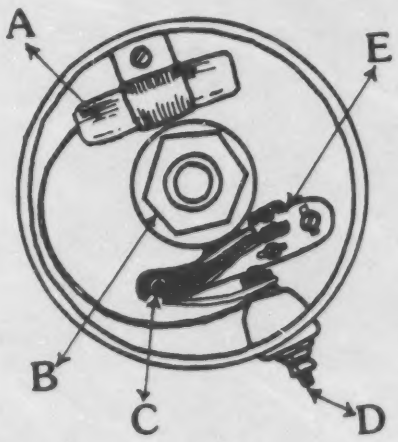
91. Cam _____

92. Condenser _____

93. Breaker points _____

94. Pivot post _____

95. Primary terminal _____



96. When adjusting the breaker points, don't set the points too close or they will:

A. Misfire at high speed
B. Cause a weak spark
C. Burn and pit rapidly

97. Proper timing means that the ignition is set so that which of the following components will supply a spark to each cylinder at a time when the fuel will burn with greatest efficiency?

A. Battery
B. Distributor
C. Alternator

98. The charge of a tractor battery may be determined by using a:

A. Voltage tester
B. Voltage regulator
C. Dynometer
D. Hydrometer

99. Which of the following parts is an electrical generating device that may be used in place of the generator for producing electrical energy to charge the battery and supply current to all electrically powered equipment?

A. Coil
B. Alternator
C. Voltage regulator
D. Ammeter

Competency: The student will demonstrate the use of selected service manuals for tractors and tractor equipment.

100. Using the following table from tractor service manual, how much load can a 7.50-16, 4 ply tractor tire hold at 22 pounds of pressure?

A. 1170 lbs.
B. 1930 lbs.
C. 2430 lbs.
D. 2510 lbs.
E. 3320 lbs.

Tire Size	Ply Rating	Tire Loads at Various Inflation Pressures 12	14	16	18	20	22
8.3-24	4	985	1055	1140	1220	1300	1370
9.5-24	4	1215	1180	1434	1835	----	----
7.50-16	4	820	895	970	1040	1110	1170
12.4-16	6,8	1355	1480	1600	1710	1830	1930(6)
12.4-24	4,6	1770	1935(4)	2090	2240	2390	2520(6)
14.9-26	6,8	----	2790	3010	3230(6)	3440	3635
16.9-24	6	----	----	3560	----	----	----

102. Using the following service chart for antifreeze, how many quarts of full strength antifreeze is needed to provide freezing protection down to -10 degrees F. in a cooling system which holds a capacity of 18 quarts?

A. 4 quarts
B. 7 quarts
C. 9 quarts
D. 10 quarts
E. 12 quarts

TABLE IV. FREEZING PROTECTION CHARTS (FAHRENHEIT)

(°C equivalents may be found on page 127)

Cooling System Capacity In Quarts	FULL STRENGTH "PERMANENT" ANTIFREEZE REQUIRED 1	2	3	4	5	6	7	8	9	10	11	12
	(Quarts)											
5	14°	−12°	−42°									
6	19°	0°	−34°									
7	22°	7°	−17°	−54°								
8	23°	11°	− 7°	−34°	−69°					(Degrees F.)		
9	24°	14°	0°	−21°	−50°							
10	25°	16°	4°	−12°	−34°	−62°						
11	26°	18°	8°	− 6°	−23°	−47°						
12		19°	10°	0°	−15°	−34°	−57°					
13		21°	13°	3°	− 9°	−25°	−45°	−66°				
14			15°	6°	− 5°	−18°	−34°	−54°				
15			16°	8°	0°	−12°	−26°	−43°	−62°			
16			17°	10°	2°	− 8°	−19°	−34°	−52°			
17			18°	12°	5°	− 4°	−14°	−27°	−42°	−58°		
18			19°	14°	7°	0°	−10°	−21°	−34°	−50°	−65°	
19			20°	15°	9°	2°	− 7°	−16°	−28°	−42°	−54°	
20				16°	10°	4°	− 3°	−12°	−22°	−34°	−48°	−62°

Competency: The student will demonstrate proper driving and handling techniques on selected tractors and tractor equipment.

103. When operating a tractor, where should the load always be hooked?

A. Axle
B. Draw bar
C. 3 point hitch
D. A or B
E. B or C

104. For on-the-road driving of a tractor, how should the right and left brakes be working?

A. Dependent of each other.
B. Independent of each other
C. A or B

105. Which of the following statements is false?

A. Roll bars will protect the operator in case of an accidental roll over.
B. The tractor should be allowed to idle about 5 minutes after work is completed.
C. Never let anyone ride on the fenders of a tractor.

ANSWER KEY

Common Core Area
Agricultural Mechanics

1. B	44. C	87. A
2. B	45. C	88. B
3. C	46. B	89. D
4. B	47. B	90. A
5. D	48. D	91. A
6. C	49. E	92. B
7. C	50. D	93. A
8. C	51. A	94. E
9. A	52. B	95. C
10. B	53. D	96. D
11. D	54. A	97. C
12. A	55. B	98. B
13. B	56. C	99. D
14. A	57. D	100. B
15. A	58. A	101. A
16. B	59. E	102. B
17. A	60. A	103. F
18. A	61. B	104. A
19. C	62. A	105. B
20. A	63. D	
21. B	64. C	
22. A	65. E	
23. C	66. C	
24. B	67. A	
25. C	68. C	
26. B	69. D	
27. C	70. B	
28. A	71. C	
29. A	72. E	
30. B	73. D	
31. A	74. A	
32. B	75. C	
33. C	76. A	
34. B	77. C	
35. A	78. A	
36. B	79. C	
37. A	80. D	
38. A	81. B	
39. B	82. A	
40. B	83. D	
41. B	84. B	
42. C	85. A	
43. B	86. C	

APPENDIX D

Item Bank of Multiple Choice Test Items
and Answer Key for the Common Core
Instructional Area of Leadership
and Citizenship Development

ITEM BANK OF TEST ITEMS FOR COMMON CORE
INSTRUCTIONAL AREA OF LEADERSHIP
AND CITIZENSHIP DEVELOPMENT

Competency: The student will cite the purposes of committees.

1. The major purpose of a standing committee is to do which of the following functions?

   A. Allow people to work together and carry out specific organizational functions.
   B. Divide the chapter into smaller voting groups.
   C. Further investigate delicate matters.

2. The purpose of an ad hoc committee is to do which of the following functions?

   A. Further investigate a specific idea proposed at a chapter meeting.
   B. Plan all activities for the upcoming year.
   C. Review membership applications and make recommendations on acceptance or rejection.

3. A chapter "executive committee" is:

   A. Usually composed of the chapter officers.
   B. Normally composed of members elected at large by the chapter.
   C. A committee which meets to nominate officers.
   D. All of the above.

4. A "standing committee" in the FFA usually refers to a committee:

   A. Appointed by the president.
   B. Elected at a regular chapter meeting.
   C. That is set up as part of the chapter's program of activities.
   D. Which is given power to act for the chapter during emergencies.

5. An executive committee should:

   A. Plan the FFA chapter meetings.
   B. Make the key decisions for the chapter.
   C. Develop the chapter program of activity.
   D. Be appointed by the advisor.

Competency: The student will serve effectively on a committee.

6. To be an effective committee member, one should possess which of the following characteristics?

   A. Try to increase political power by taking credit for the work of the committee.
   B. Enter discussions that are only related to your own self interests.
   C. Listen to the opinions of other committee members before making a voting decision.

7. When a committee report is made, who should move its acceptance?

   A. Presiding officer.
   B. Member from the floor.
   C. Chairman of the committee.
   D. Advisor.

Competency: The student will list and identify different types of committes.

8. Which of the following committees is one that is generally assigned a permanent status because the members work on problems or topics relating to the Program of Activities on a year long basis?

   A. Special
   B. Standing
   C. Executive

9. Which of the following committees is most likely to be a special committee rather than a standing committee?

   A. Program of Activities Committee
   B. Scholarship Committee
   C. Recreation Committee
   D. Awards Banquet Committee

Competency: The student will give a committee report.

10. As committee chairman, which of the following tasks would need to be completed for the committee to give a report at the next meeting?

    A. Call a meeting of the committee, assign tasks, and report the committee results accurately and clearly.
    B. Contact the FFA advisor and ask him to make the committee report.
    C. Write up a report and then tell your committee about it before the next meeting.

11. A committee report should mention the names of those members who were absent as well as present at the committee meeting.

    A. True
    B. False

Competency: The student will state or describe the purposes of the Program of Activities (POA).

12. What is the major purpose of a Program of Activities?

    A. Describe activities which a chapter plans to take part in during the upcoming year.
    B. Describe activities which the chapter has participated in during the preceeding year.
    C. Separate and describe the duties of each major standing and special committee in the chapter.
    D. All of the above.

13. An FFA chapter program of activities must be turned into the State Office in:

    A. August
    B. November
    C. March
    D. May

14. A key step in implementing a program of activities is:

    A. Having the chairperson of each committee report to the Executive Committee and/or chapter monthly.
    B. Having a calendar of activities.
    C. Both of the above.
    D. None of the above.

Competency: The student will list the major divisions of the POA.

15. Which of the following is NOT a major division of a program of activities?

    A. Recreation
    B. Chapter Safety
    C. Community Service
    D. Scholarship

16. Which is NOT one of the 11 divisions of a chapter program of activities?

    A. Supervised Occupation Experience
    B. International Programs
    C. Scholarship
    D. Alumni Relations

17. The FFA Program of Activities has how many divisions:

    A. 7
    B. 9
    C. 10
    D. 11

Competency: The student will describe or suggest local activities for the POA.

18. In an FFA Program of Activities, which of the following local activities would NOT be beneficial to the chapter?

    A. Plans for a car wash to raise money for the annual awards banquet
    B. Plans for a public relations exhibit of FFA programs at the local shopping center to recruit new members
    C. Plans for active involvement in the upcoming mayors race to secure political favors

19. Local activities of the FFA chapter should involve as many members of the chapter as possible.

    A. True
    B. False

20. Which of the following is the most typical activity of supervised occupational experience committees?

A. Establish a land laboratory
B. Conduct a charity drive for the Christian Rural Overseas Program
C. Provide proficiency award plaques
D. Sell pine seedlings for reforestration

Competency: The student will list major criteria to consider in choosing activities for the POA.

21. Which of the following subjects is NOT part of the program of activities format?

A. Ideas
B. Goals
C. Amount Budgeted
D. Ways and Means

22. Which is NOT a characteristic of an effective program of activities?

A. Covers every detail of chapter operation
B. Is educational and meets the needs of the members
C. Can be achieved with available chapter funds
D. Contributes to the overall development of the chapter

23. Which of the following is NOT a characteristic of an effective program of activities?

A. Written by the advisor
B. Is educational and meets the members needs
C. Can be achieved with available chapter funds
D. Contributes to the development of comprehensive supervised occupational experience programs

Competency: The student will choose award programs appropriate to students' interest and SOEP.

24. A student interested in studying the economic characteristics of farming should enter which of the following FFA contests?

A. Livestock
B. Farm Business Management
C. Public Speaking
D. Floriculture

25. The student should choose an award program relating to his/her interest and Supervised Occupational Experience Program.

A. True
B. False

Competency: The student will properly complete awards applications.

26. Which of the following might cause an FFA Proficiency Awards Application to be turned down by evaluators?

A. Several pictures that add visual evidence to the accomplishments reported in your application
B. Complex answers to application questions which include unrelated and unnecessary information
C. Clear and complete records of expenses and returns relating to the occupational experience

Competency: The student will describe or identify chapter award activities.

27. The National FFA Chapter Awards Program is primarily based on which of the following criteria?

A. Individual proficiency awards achievement
B. Cooperation of chapter members in accomplishing the Program of Activities
C. Percentage of chapter membership which attends the National Convention

28. To be eligible for the Superior Chapter Award program a chapter must have at least_____meetings per year.

A. Ten
B. Twelve
C. Eighteen
D. Twenty-four

29. The FFA award program which is directly tied to the Program of Activities is:

A. BOAC Award
B. Chapter Safety Award
C. National Chapter Award

Competency: The student will prepare a meeting agenda.

30. Which of the following examples of a basic meeting agenda lists the correct order of events for a FFA Chapter meeting?

    A. Opening Ceremony
       Minutes of Previous Meeting
       Old Business
       New Business
       Closing Ceremony
    B. Opening Ceremony
       New Business
       Old Business
       Minutes of Previous Meeting
       Closing Ceremony
    C. Opening Ceremony
       Old Business
       Minutes of Previous Meeting
       New Business
       Closing Ceremony

31. Which of the following is NOT normally included in an order of business for an FFA meeting?

    A. Opening Ceremony
    B. Minutes of the Previous Meeting
    C. Committee Reports
    D. Class Reports

32. A local FFA chapter conducts its business primarily through:

    A. Executive Committee Meetings
    B. Chapter Meetings
    C. Standing Committee Meetings
    D. Classroom Activities

33. A well planned chapter meeting would have a:

    A. Short, efficient business meeting; program; refreshments and recreation
    B. Long business meeting and recreation and refreshments
    C. Long program, short business meeting and refreshments
    D. Short business meeting, committee meetings, and a program

Competency: The student will recognize the role of members and the chairman of an organization.

34. The Committee chairman must_____.

A. Prepare and read minutes of meetings
B. Coordinate the work of a committee
C. Collect dues
D. Coordinate the work of all committees
E. Call the meeting to order

35. The Treasurer must_____.

A. Prepare and read minutes of meetings
B. Coordinate the work of a committee
C. Collect dues
D. Coordinate the work of all committees
E. Call the meeting to order

36. The Vice President must_____.

A. Prepare and read minutes of meetings
B. Coordinate the work of a committee
C. Collect dues
D. Coordinate the work of all committees
E. Call the meeting to order

37. The Secretary must_____.

A. Prepare and read minutes of meetings
B. Coordinate the work of a committee
C. Collect dues
D. Coordinate the work of all committees
E. Call the meeting to order

Competency: The student will demonstrate how to handle and dispose of motions.

38. Which one of the following motions is NOT debatable?

A. Amend
B. Adjourn
C. Main Motion
D. Appeal

39. Is it proper to discuss a motion before it is seconded?

A. Yes
B. No
C. Only in special matters

40. When a main motion has been passed or rejected, how many taps of the gavel should follow the announcement of the result?

A. 1
B. 2
C. 3
D. 4

41. An amendment of the second rank or level:

A. Does not require a second
B. Requires a two-thirds vote
C. Can be amended
D. Is debatable

42. When rising to a point of order:

A. A second is required
B. It is debatable
C. It is amendable
D. It may interrupt a speaker
E. It may be reconsidered

43. The president may vote when:

A. There is a tie
B. Vote is by ballot
C. When vote will make a tie
D. All of the above

44. The following motion does not require recognition by the chairman:

A. Amend
B. Adjourn
C. Previous question
D. Point of order
E. All of the above

45. A division of the house is called to:

A. Determine the accuracy of a vote
B. Continue discussion
C. Stop discussion
D. Enforce a rule
E. Suspend standing rules

Competency: The students will apply their knowledge of conducting a meeting to other school and community groups.

46. Which of the following statements is TRUE?

A. The basic role of the officers and members differ significantly from one organization to another.
B. A majority vote is not required to pass a main motion.
C. The FFA does not have a standard format for a meeting agenda.
D. A properly operated business meeting is conducted under the rules of the majority, without forgetting the rights of the minority.

47. What is meant by acclamation?

A. A method of voting by "Aye" or "Nay"
B. A show of hands to count votes
C. A secret written ballot
D. A completely affirmative vote

Competency: The student will recognize citizen responsibility.

48. Males and females who are 18 years of age must register for the draft, even in peace time.

A. True
B. False

49. Before a person can vote in a national election, they must be 21 years of age and a citizen.

A. True
B. False

50. Only those citizens who are registered to vote can be called for jury duty.

A. True
B. False

Competency: The student will conduct him/herself properly in different situations regarding citizenship.

51. Which of the following choices is NOT proper with respect to the responsibilities of U.S. citizenship.

    A. Register to vote as soon as legally possible
    B. Cooperate with law enforcements officers
    C. Write letters to elected officers to express your opinion
    D. Take part in a violent demonstration of public opinion

Competency: The student will show respect for other views and opinions.

52. Which of the following constitutional amendments guarantees every citizen the right of free speech?

    A. 1st amendment
    B. 2nd amendment
    C. 4th amendment
    D. 10th amendment

53. One of the major principles of a democratic society is respect for the views and opinions of other citizens.

    A. True
    B. False

Competency: The student will properly complete job application forms.

54. When filling out a job application, which of the following documents will LEAST likely be needed?

    A. Social security card
    B. Birth certificate
    C. List of previous employers
    D. List of personal references with addresses and telephone numbers

55. When filling out a job application, list previous employment starting with the first job ever held and work up to the most recent.

    A. True
    B. False

Competency: The student will choose a topic for an oral report.

56. Which of the following choices is LEAST important when choosing a topic for an oral report?

A. Personal interests
B. Audience's interests
C. Size of the audience
D. Complexity of the topic

57. The only thing to consider when choosing a topic for an oral report is personal interests.

A. True
B. False

Competency: The student will prepare an outline for an oral report.

58. Which of the following examples is the best outline for an oral report?

A. Introduction
Content of report
Conclusion
Questions from audience
B. Introduction
Questions from audience
Content of report
Conclusion
C. Introduction
Content of report
Questions from audience
Conclusion

59. The outline of an oral report provides a framework from which the report can be presented in an understandable manner for the benefit of the audience and the speaker.

A. True
B. False

Competency: The student will give an oral report.

60. When called on to give an oral report, it is important to do all of the following activities EXCEPT:

    A. Prepare an outline of the report
    B. Speak slowly and clearly
    C. Tell the audience to pay attention
    D. Provide for a question and answer period

61. There is no reason to wear good clothes when giving an oral report because the audience will not be affected by the speaker's appearance.

    A. True
    B. False

Competency: The student will defend the presentation of an oral report to peers.

62. The best method of defending an oral report is:

    A. Present genuine evidence to support claims
    B. Make up the most convincing response to criticism regardless of the truth
    C. Prepare a list of references to supply to audience members who have questions
    D. Not allow any questions after the presentation

ANSWER KEY

Common Core Instructional Area
of
Leadership and Citizenship Development

1.	A	40.	A
2.	A	41.	D
3.	A	42.	D
4.	C	43.	D
5.	A	44.	D
6.	C	45.	A
7.	C	46.	D
8.	B	47.	D
9.	D	48.	A
10.	A	49.	B
11.	A	50.	A
12.	A	51.	D
13.	B	52.	A
14.	C	53.	A
15.	B	54.	B
16.	B	55.	B
17.	D	56.	C
18.	C	57.	B
19.	A	58.	A
20.	C	59.	A
21.	A	60.	C
22.	A	61.	B
23.	A	62.	A
24.	B		
25.	A		
26.	B		
27.	B		
28.	B		
29.	C		
30.	A		
31.	D		
32.	B		
33.	A		
34.	B		
35.	C		
36.	D		
37.	A		
38.	B		
39.	B		